HUMAN ANATOMY AND CELL SCIENCE, PH.D.

Human Anatomy and Cell Science
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Academic Staff: Please see the HACS website (https://umanitoba.ca/medicine/human-anatomy-and-cell-science/#faculty-and-staff) for Faculty information.

Human Anatomy Program Information

The Department of Human Anatomy and Cell Science (HACS) offers graduate training at both the Master of Science and Doctor of Philosophy levels.

Admission Information

Admission to the Faculty of Graduate and Postdoctoral Studies

Application and Admission Procedures are found in the Academic Guide (https://catalog.umanitoba.ca/graduate-studies/academic-guide/application-admission-registration-policies/).

Admission requirements for doctoral students are found in the Doctor of Philosophy General Regulations (https://catalog.umanitoba.ca/graduate-studies/academic-guide/doctor-philosophy-general-regulations/) section of the Guide.

Human Anatomy and Cell Science Ph.D. Admission Requirements

Admission requirements are those of the Faculty of Graduate and Postdoctoral Studies.

The minimum standard for acceptance into any graduate program in the Department of HACS is a 3.5 Grade Point Average (GPA) or equivalent in the last two previous years of full time university study (60 credit hours).

Application Information

Students should complete and submit their online application with supporting documentation by the date indicated on the Human Anatomy Cell Science Ph.D. program of study (https://umanitoba.ca/explore/programs-of-study/human-anatomy-and-cell-science-phd/) page.

Degree Requirements

Students are required to take Biomedical Trainee Skills (IMED 7410) plus a minimum of 9 credit hours of approved coursework at the 7000 level. Students must then complete a thesis.

Attendance at the departmental seminar program is mandatory for all graduate students.

Expected Time to Graduate: 4-5 years

Progression Chart

Course	Title	Hours
Year 1		
GRAD 7300	Research Integrity Tutorial	0
GRAD 7500	Academic Integrity Tutorial	0
IMED 7410	Biomedical Trainee Skills	3
Approved coursework designated 7000 level, including at least one 3 CH course from the following: [1]		9
ANAT 7322	Ultrastructural Anatomy of the Cell	
ANAT 7380	Human Developmental Anatomy (Embryology)	
ANAT 7392	Human Neuroanatomy	
ANAT 7468	Human Histology: Basic Tissues and Organ Systems	
ANAT 7478	Human Gross Anatomy: Musculoskeletal	
ANAT 7480	Human Gross Anatomy: Trunk (Thorax, Abdomen, Pelvis)	
ANAT 7482	Human Gross Anatomy: Head and Neck	
	Hours	**12**
Years 2-3		
GRAD 8010	Doctoral Candidacy Examination	0
Thesis Proposal [2]		
	Hours	**0**
Years 3-4		
GRAD 8000	Doctoral Thesis [3]	0
	Hours	**0**
	Total Hours	**12**

1. The coursework required for an individual student will be specified in consultation with the student's faculty advisor, and will depend upon the student's background. Additional elective coursework at the 7000 level may be completed through other U of M departments/faculties, or include any of the following ANAT / IMED elective courses taught by HACS faculty:
   - ANAT 7012 Advanced Brain Imaging Methods
   - ANAT 7014 Functional Human Anatomy
   - ANAT 7320 Introduction to Scanning and Transmission Electron Microscopy
   - ANAT 7330 Readings in Anatomy
   - ANAT 7400 Morphological Techniques
   - IMED 7004 Human Brain Imaging Methods
   - IMED 7112 Fundamental Cellular Neurobiology
   - IMED 7114 Fundamental Neural Development and Plasticity
   - IMED 7302 Advanced Molecular Imaging
2. The thesis proposal should be completed within two years of entering the program.
3. Prior to submission of their thesis for examination, the student normally will be expected to have presented their research at scientific meetings; and, contributed to a manuscript that is submitted, in press, or published.

Registration Information

Students should familiarize themselves with the Faculty of Graduate and Postdoctoral Studies 'GRAD' courses applicable to their program (https://

catalog.umanitoba.ca/graduate-studies/registration-information/). If you have questions about which GRAD course(s) to register in, please consult your home department/unit.

All programs of study must be approved by the Chair of Graduate Studies or by the department.

Not all courses are offered each year. Please consult with your Advisor and the department office or check with the catalog for a list of courses offered.

Students should register themselves by signing up for the Aurora Student on-line service of the University of Manitoba website. All course additions and or withdrawals (registration revisions) must be approved by the department.

Regulations

Students must meet the requirements as outlined in both Supplementary Regulation and BFAR documents as approved by Senate.

Supplementary Regulations

Individual units may require specific requirements above and beyond those of the Faculty of Graduate and Postdoctoral Studies, and students should consult unit supplementary regulations (https://umanitoba.ca/graduate-studies/supplementary-regulations/) for these specific regulations.

Bona Fide Academic Requirements (BFAR)

Bona Fide Academic Requirements (BFAR) (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#BFAR) represent the core academic requirements a graduate student must acquire in order to gain, and demonstrate acquisition of, essential knowledge and skills.

All students must successfully complete:

- GRAD 7300 prior to applying to any ethics boards which are appropriate to the student's research or within the student's first year, whichever comes first; and
- GRAD 7500 within the first term of registration;

unless these courses have been completed previously, as per Mandatory Academic Integrity Course (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7500) and Mandatory Research Integrity Online Course (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7300).

Students must also meet additional BFAR requirements (https://umanitoba.ca/graduate-studies/student-experience/core-academic-requirements/#additional-requirements-by-program) that may be specified for their program.

General Regulations

All students must:

- maintain a minimum degree grade point average of 3.0 with no grade below C+,
- meet the minimum and not exceed the maximum course requirements, and
- meet the minimum and not exceed the maximum time requirements (in terms of time in program and lapse or expiration of credit of courses).